

Please amend the claims as follows:

C1
SUB
D1

1. (amended) An apparatus for controlling the power at the output of an internal combustion engine, comprising:

- (a) an electric motor coupled to the output of said engine; and
- (b) a motor controller configured to operate said motor simultaneously with said engine and apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

C2
SUB
D2

9. (twice amended) An apparatus for controlling the power at the output of an internal combustion engine coupled to a transmission wherein the rate of change of ratio of said transmission is controllable, comprising:

- (a) an electric motor positioned between said engine and said transmission; and
- (b) a controller configured to vary the rate of change of the ratio of said transmission and to operate said motor simultaneously with said engine and apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

C3
SUB
D3

12. (amended) An apparatus for controlling the power at the output of an internal combustion engine, comprising:

- (a) a generator coupled to the output of said engine; and

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SUB
D3
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(b) a generator controller configured to operate said generator simultaneously with said engine and apply positive or negative generator torque to said engine output to maintain engine power output substantially along a predetermined operating line.

C4
SUB
D4

19. (twice amended) A control apparatus for an internal combustion engine driving a continuously variable transmission and a driveshaft coupled to said continuously variable transmission wherein the rate of change of ratio of said continuously variable transmission is controllable, comprising:

- (a) a generator/motor mechanically coupled to and driven by said engine;
- (b) a generator/motor controller electrically connected to said generator;
- (c) a motor/generator mechanically coupled to said drive shaft;
- (d) a battery electrically connected to said generator/motor controller and said motor/generator controller;
- (e) said generator/motor, said generator/motor controller, said motor/generator, said motor/generator controller, and said battery comprising said continuously variable transmission; and
- (f) a controller configured to vary the rate of change of the ratio of said continuously variable transmission and to operate said generator/motor simultaneously with said engine and apply positive or negative generator/motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

C4
cont.
D4
cont.

20. (twice amended) A control apparatus for a vehicle having an internal combustion engine driving a transmission, wherein said transmission has an output driving a first wheel at a first end of said vehicle wheel, and wherein the rate of change of ratio of said transmission is controllable, comprising:

- (a) an electric motor driving a second wheel at a second end of said vehicle;
- (b) a motor controller electrically connected to said motor;
- (c) said motor coupled to said transmission through a road surface; and
- (d) control means for varying the rate of change of the ratio of said continuously variable transmission and for operating said motor simultaneously with said engine to apply positive or negative generator/motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

21. (twice amended) A control apparatus for a vehicle having an internal combustion engine, an electric motor coupled to said engine and driving a transmission, and a battery system powering the electric motor, comprising:

a motor controller electrically connected to said electric motor;

wherein said motor controller is configured to operate said motor simultaneously with said engine and apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line;

wherein said predetermined operating line comprises an ideal operating line as determined by empirical testing of the electric motor and battery system.

*C4
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D4
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22. (twice amended) A control apparatus for a vehicle having an internal combustion engine and an electric motor, wherein said internal combustion engine and said electric motor are coupled to a continuously variable transmission, and wherein the rate of change of ratio of said continuously variable transmission is controllable,

comprising:

- (a) an engine controller mechanically connected to said internal combustion engine;
- (b) a motor controller electrically connected to said electric motor; and
- (c) control means associated with said engine controller and said motor controller for varying rate of change of the ratio of said transmission and for operating said motor simultaneously with said engine to apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

VERSION OF AMENDMENT WITH MARKINGS TO SHOW CHANGES

The claims have been amended as follows:

1. (amended) An apparatus for controlling the power at the output of an internal combustion engine, comprising:

- (a) an electric motor coupled to the output of said engine; and
- (b) a motor controller [which varies engine power output with said electric motor] configured to operate said motor simultaneously with said engine and apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

9. (twice amended) An apparatus for controlling the power at the output of an internal combustion engine coupled to a transmission wherein the rate of change of ratio of said transmission is controllable, comprising:

- (a) an electric motor positioned between said engine and said transmission; and
- (b) a controller [which varies torque output of said electric motor and] configured to vary the rate of change of the ratio of said transmission and to operate said motor simultaneously with said engine and apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.[:]

[(c) wherein, for any given speed, the controller sets engine power output in accordance with predetermined operating characteristics; and]

[(d) wherein said electric motor varies engine power output.]

12. (amended) An apparatus for controlling the power at the output of an internal combustion engine, comprising:

- (a) a generator coupled to the output of said engine; and
- (b) a generator controller [which varies engine power output with said generator] configured to operate said generator simultaneously with said engine and apply positive or negative generator torque to said engine output to maintain engine power output substantially along a predetermined operating line.

19. (twice amended) A control apparatus for an internal combustion engine driving a continuously variable transmission and a driveshaft coupled to said continuously variable transmission wherein the rate of change of ratio of said continuously variable transmission is controllable, comprising:

- (a) a generator/motor mechanically coupled to and driven by said engine;
- (b) a generator/motor controller electrically connected to said generator;
- (c) a motor/generator mechanically coupled to said drive shaft;
- (d) a battery electrically connected to said generator/motor controller and said motor/generator controller;
- (e) said generator/motor, said generator/motor controller, said motor/generator, said motor/generator controller, and said battery comprising said continuously variable transmission; and

(f) a controller [which varies torque output of said generator/motor and] configured to vary the rate of change of the ratio of said continuously variable transmission[:] and to operate said generator/motor simultaneously with said engine and apply positive or negative generator/motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.

[(g) wherein, for any given speed, said controller sets engine power output in accordance with predetermined operating characteristics; and]

[(h) wherein said generator/motor varies engine power output.]

20. (twice amended) A control apparatus for a vehicle having an internal combustion engine driving a transmission, wherein said transmission has an output driving a first wheel at a first end of said vehicle wheel, and wherein the rate of change of ratio of said transmission is controllable, comprising:

(a) an electric motor driving a second wheel at a second end of said vehicle;
(b) a motor controller electrically connected to said motor;
(c) said motor coupled to said transmission through a road surface; and
(d) control means for [varying torque output of said motor and for] varying the rate of change of the ratio of said continuously variable transmission and for operating said motor simultaneously with said engine to apply positive or negative generator/motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.[:]

[(e) wherein, for any given speed, said control means sets engine power output in accordance with predetermined operating characteristics; and]

[(f) wherein said electric motor varies engine power output.]

21. (twice amended) A control apparatus for a vehicle having an internal combustion engine, an electric motor coupled to said engine and driving a transmission, and a battery system powering the electric motor, comprising:

a motor controller electrically connected to said electric motor;

wherein said motor controller [varies torque output of said motor to be on an] is configured to operate said motor simultaneously with said engine and apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line;

wherein said predetermined operating line comprises an ideal operating line as determined by empirical testing of the electric motor and battery system; and]

[wherein said electric motor varies engine power output.]

22. (twice amended) A control apparatus for a vehicle having an internal combustion engine and an electric motor, wherein said internal combustion engine and said electric motor are coupled to a continuously variable transmission, and wherein the rate of change of ratio of said continuously variable transmission is controllable, comprising:

(a) an engine controller mechanically connected to said internal combustion engine;

(b) a motor controller electrically connected to said electric motor; and

(c) control means associated with said engine controller and said motor controller for [varying torque output of said motor and for] varying rate of change of the ratio of said transmission and for operating said motor simultaneously with said engine to apply positive or negative motor torque to said engine output to maintain engine power output substantially along a predetermined operating line.[:]

[(d) wherein, for any given speed, said control means sets engine power output in accordance with predetermined operating characteristics;]

[(e) wherein said control programming includes hybrid, electric, and braking modes; and]

[(f) wherein said electric motor varies engine power output].